

STATE OF NEW HAMPSHIRE  
DEPARTMENT OF ENVIRONMENTAL SERVICES  
AIR RESOURCES DIVISION  
CONCORD, NEW HAMPSHIRE

**NOTICE OF PREVENTION OF SIGNIFICANT DETERIORATION (PSD) PERMIT  
REVIEW, PUBLIC HEARING, AND COMMENT PERIOD**

Pursuant to the New Hampshire Code of Administrative Rules, Env-A 621.03, notice is hereby given that the Director of the New Hampshire Department of Environmental Services, Air Resources Division (Director), has received an application for a PSD permit from, and based on the information received to date, intends to **issue such PSD permit to:**

**Northeast Utilities**  
**Public Service Company of New Hampshire**  
**780 North Commercial Street**  
**Manchester, NH 03101**

Located at:

**Public Service of New Hampshire**  
**Schiller Station**  
**400 Gosling Road**  
**Portsmouth, NH 03801-3353**

For a:

**50 Megawatt Wood/Coal-Fired Boiler**

PSNH is proposing to replace/repower the existing Unit #5, a 50 MW coal-fired boiler, at Schiller Station with a new, 50 MW wood-fired fluidized bed boiler (referred to herein as the NWPP Boiler). The NWPP boiler will make use of the existing electrical generating equipment (turbine and generator) currently associated with Unit #5. The fuel for the NWPP boiler will be primarily whole tree chips, but may also include clean, untreated byproducts or residue from forest products manufacturing operations or construction, stump grindings, and ground pallets. The NWPP boiler will also have the coal processing and handling equipment necessary to burn coal as a back-up fuel in the event that PSNH's wood fuel becomes uneconomical or subject to a disruption in supply. The NWPP boiler will be equipped with emission control equipment including a limestone injection system, a selective non-catalytic reduction (SNCR) system, and a fabric filtration system. The NWPP boiler will achieve important emissions reductions, relative to the existing Unit #5, as a result of the wood fuel, fluidized bed technology, and emissions control system.

The net emissions changes resulting from the replacement/repowering of Unit #5 with the NWPP Boiler are listed in Table 1 below.

Table 1 – Net Emissions Changes and Prevention of Significant Deterioration (PSD) Applicability Thresholds (All Values in Tons Per Year)						
Pollutant	Total Suspended Particulate Matter	Particulate Matter Less Than 10 Microns	Sulfur Dioxide	Nitrogen Oxides	Carbon Monoxide	Volatile Organic Compounds
Net Emissions Increase/(Decrease) from Unit #5 Replacement/Repowering with NWPP Boiler	(81.7)	(81.7)	(1,616.7)	(347.1)	134.7	11.6
PSD Significant Modification Threshold	25	15	40	25	100	40
Increase above PSD Significant Modification Threshold?	No	No	No	No	<b>Yes</b>	No

As shown in Table 1, the only significant net emissions increase resulting from the modification will be 134.7 tons per year of carbon monoxide. The determination of the Best Available Control Technology (BACT), including the type of equipment, and the prescribed carbon monoxide emission limitation is set forth in Table 2 below.

Table 2 – BACT Emission Limitations and Control Technology		
Fuel Type	Carbon Monoxide Emission Limitation, Load, and Averaging Time	Control Technology for BACT
Wood	0.10 lb/MMBtu 50% load or greater 24-hour block average	Boiler Design Good Combustion Practices
	72 lb/hr All loads 24-hour block average	
	315.4 tons per year All loads 12-month rolling average	
Coal	0.10 lb/MMBtu 50 % load or greater 24-hour block average	Boiler Design Good Combustion Practices
	63.5 lb/hr All loads 24-hour block average	
	315.4 tons per year All loads 12-month rolling average	

The degree of increment consumption expected from this modification is indicated in Tables 3 and 4 below.

Table 3 – Maximum Increment Impact in Class I Areas				
Pollutant	Averaging Time	Contribution of Boiler (Compare to Increment and Significant Impact Levels) ( $\mu\text{g}/\text{m}^3$ )	Increment ( $\mu\text{g}/\text{m}^3$ )	Significant Impact Level ( $\mu\text{g}/\text{m}^3$ )
Sulfur Dioxide	Annual	0	2	0.08
	24-Hour	0	5	0.2
	3-Hour	0	25	1.0
Particulate Matter Less than 10 Microns	Annual	0.0126	4	0.16
	24-Hour	0	8	0.32
Nitrogen Dioxide	Annual	0	2.5	0.1

Table 4 – Interactive Source Maximum Impacts Compared to Class II Increment				
Pollutant	Averaging Time	Contribution of Boiler ( $\mu\text{g}/\text{m}^3$ )	Class II Increment ( $\mu\text{g}/\text{m}^3$ )	Pass/Fail
Sulfur Dioxide	Annual	7.4	20	Pass
	24-Hour	29.6	91	Pass
	3-Hour	66.5	512	Pass
Particulate Matter Less than 10 Microns (PM10)	Annual	0.7	17	Pass
	24-Hour	2.8	30	Pass
Nitrogen Dioxide	Annual	3.9	25	Pass

Pursuant to Env-A 621.06(e) & (f), notice is hereby given that the Director will hold a public hearing on **Wednesday, September 22, 2004 at 6:00 p.m.** in the City Council Chambers at the Portsmouth City Hall, 1 Junkins Avenue, Portsmouth, N.H. The Director shall receive testimony concerning the Preliminary Determination and the draft PSD Permit prepared by NHDES for Public Service of New Hampshire.

All information, to the extent permitted by N.H. RSA 91-A and RSA 125-C:6, VII, submitted by the applicant; the Department's analysis of the effect of the proposed facility on air quality; the Preliminary Determination; and all other materials, if any, considered in making the Preliminary Determination are available for inspection and may be reviewed at the Portsmouth Public Library, 8 Islington Street, Portsmouth, N.H. during the hours of 9 a.m. to 9 p.m., Monday through Thursday, 9 a.m. to 5:30 p.m., Friday, and 9 a.m. to 5 p.m., Saturday. The application, draft permit, and Preliminary Determination are also on file with the Director, New Hampshire Department of Environmental Services, Air Resources Division, located at 29 Hazen Drive, P.O. Box 95, Concord, N.H. 03302-0095, (603) 271-1370. The draft permit and Preliminary Determination are also available for download on the Department's web site at <http://www.des.state.nh.us/>. Information may be reviewed at the office during working hours from 8 a.m. to 4 p.m., Monday through Friday. Additional information may also be obtained by contacting **Gary Milbury** at the above address and phone number.

Oral comments delivered at the public hearing on September 22, 2004, and written comments filed with the Director at the above address and received no later than **Wednesday, September 22, 2004**, shall be considered by the Director in making a final decision.

Robert R. Scott  
Director  
Air Resources Division